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ABSTRACT

Data analysis of a questionnaire completed by 38 public libraries in the United States and Canada who possess "turnkey" automated circulation systems is presented. Results show that libraries are enthusiastic about benefits to staff and patrons. For libraries with increasing circulation, the computer allows more time to handle additional work load without hiring more staff. For libraries with little growth, an automated system allows them to reduce the number of people at the circulation desk and to assign them to less routine tasks. Library usage insights were gained. Minor breakdowns and software problems were generally tolerated, but major problems and user inconvenience were less tolerated. Conversion of bibliographic data into machine readable format created a large task which libraries dealt with by hiring part-time personnel. The majority agreed that they would automate if they had the chance to do it over--benefits are evident once the system is operational. Satisfaction with vendor support was expressed. A significant number reported power failures due to voltage variations on power lines--most have had voltage regulators installed. Appendices include lists of libraries that responded and vendors of automated circulation control systems, as well as the survey questionnaire. (Author/MBR)

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MTR-7769, Revision 1

Automated Circulation Systems in Public Libraries

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June 1978

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ABSTRACT

Public libraries in the United States and Canada which possess "turnkey" automated circulation systems were polled by the Fairfax County Public Library using a questionnaire. Replies from the 38 responding libraries contained information which was judged to be of interest to libraries contemplating automation in the future. The data is analyzed here to assist in an Office of Education grant study being conducted by MITRE to investigate the role of the microcomputer in library automation.

Statistics from these returns are presented here along with selected librarian's comments. Also included is a copy of the questionnaire showing the collective returns from the responding libraries.

ACKNOWLEDGEMENT

The MITRE Corporation wishes to acknowledge the interest of, and the assistance provided by, Mr. David Wakefield of the Fairfax County Public Library. In particular, we appreciate receiving from Mr. Wakefield the results of a national survey of "turnkey" automated circulation systems conducted by the Fairfax County Public Library.

Thanks are also due to the many people in libraries all over the country who took the time to complete and return the Fairfax questionnaires and who supplied additional information to MITRE by telephone.

MITRE's work is performed under a U.S. Office of Education grant. However, opinions and recommendations in this report are solely those of the author and do not necessarily reflect the official position of the Office of Education. Mr. Larry Papier is the grantor's Project Officer.

AUTHOR'S NOTE

An error existed in the original printing of Automated Circulation Systems in Public Libraries, MTR-7769, March 1978, in that the Onondaga Library was not identified as a customer of Gaylord Brothers, Incorporated. Errors resulting from this omission have been corrected in this second printing, MTR-7769, Revision 1, June 1978.

It was brought to our attention that the inclusion of footnotes in Section 4.4, "Comments on CLSI System" seemed to imply an endorsement by MITRE of the information in the footnotes. That is not the case. The footnotes merely contain information obtained from CLSI and are included as a service to the library community.

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EXECUTIVE SUMMARY

BACKGROUND

During an Office of Education grant effort to investigate the role of the microcomputer in library automation, The MITRE Corporation decided to poll selected libraries by means of a questionnaire. However, our attention was drawn to the fact that the Fairfax County Public Library had recently prepared and mailed out a questionnaire similar to the one planned by MITRE. An analysis of the 31 questions on the 5-page questionnaire confirmed that there would be a duplication of effort if MITRE prepared their own questionnaire. Further analysis indicated that the libraries polled represented a sample size of more than 50 percent of all public libraries with automated circulation systems as of the fall of 1977. We then requested that copies of the returned questionnaires be made available for use by MITRE during their grant effort. The Fairfax County Public Library kindly cooperated.

RESULTS

Results show that libraries are generally enthusiastic about benefits to both staff and patrons from automation. For libraries which are growing in size or are experiencing increased circulation, the consensus was that the computer allowed them to handle the additional work load without the need to hire more staff. For libraries which experienced little growth, an automated circulation system allowed them to reduce the number of people at the circulation desk and to assign them to less routine tasks. Other libraries said that management reports generated by the computer on collection statistics has helped them to gain insights into library usage in a way that the manual system was incapable of doing.

Many libraries were philosophical or understanding about computer breakdowns and software problems, such as the one which reported that checking-in a patron on the bookmobile resulted in elimination of that person from the master file. That library, however, discovered a way to deal with the problem until the program was corrected. Other libraries were not quite as tolerant, especially those where relations between staff and patrons became strained due to recurrent failures or situations where overdue notices were sent to the wrong people.

Conversion of bibliographic data into machine-readable format required staff to enter information into the computer using a keyboard. For most libraries this was a bigger task than originally anticipated. Those libraries which could not hire additional staff found themselves swamped with work. Many libraries hired part-time

or temporary help, as many as 13 in one library. Every library called by us had not as yet converted their whole collection, even though it had been 3 years since some had first started.

The majority of libraries agreed that if they had to do it all over again, they would choose the same system that they were currently using. No library said that they would not have an automated system if given the opportunity to start again. A conclusion drawn from this is that the benefits of an automated circulation system are evident to the staff once the system is operational. However, during periods when the system is not operational there is likely to be confusion and resentment in the library and a tendency for staff morale to drop. Fortunately, vendors appear to be aware of this situation and manage to get most failures repaired the same day they happen. Praise for repair technicians was high and only a few librarians expressed dissatisfaction with vendor support after installation.

A significant number of librarians reported failures due to voltage variations on the power lines. This included surges, evidenced by lights dimming or brightening, and the effects of lightning. Some libraries installed voltage regulators to eliminate this problem but only after two years of frustration. Other libraries with similar problems should bring this point to the attention of their vendors.

ORGANIZATION OF THE REPORT

The data from the questionnaires is presented in Sections 2.0 and 3.0, General Data and Statistics of Responding Libraries, respectively. A surprising statistic was that 28 out of 38 libraries had purchased their systems outright. This was surprising because there are advantages to the library due to leasing. For example, it is less costly to upgrade a computerized system if it is leased. However, it was brought to our attention that some vendors do not lease their equipment. Also, the funding for the system usually came from a one-time appropriation which made outright purchase the natural selection.

Most of the valuable information came from librarians who offered additional comments about their experience with system operation. These comments are included in Sections 4.0 and 5.0. Section 6.0 deals with an analysis of the data on the questionnaires as applied to microcomputer applications.

Appendices include a list of libraries which responded to the questionnaire, a list of vendors of automated circulation control systems and a completed Fairfax County Public Library questionnaire (filled in with totals from all the libraries responding).

A final appendix gives brief details on how to acquire a publication entitled, "Survey of Library Automation in the Metropolitan Washington Area." This report presents data from a questionnaire mailed to 600 libraries, of which 193 replied. All types of libraries were surveyed, with the majority of replies coming from the non-public sector of the library community. No attempt was made in that report to interpret or analyze the data but the results were presented in a format which should prove of interest to any library contemplating automation.

1.0 INTRODUCTION

Public Libraries polled during this survey were known to be using automated circulation systems or to be in the process of having one installed. Some of those in the latter category were unable to answer all the questions asked because their system was either still being installed or because they had only recently become operational.

The survey was generally limited to libraries which were using "turnkey" or packaged systems. These are systems where full responsibility for hardware, software and maintenance rests with the vendor. Day-to-day running of the system, once installed, is the responsibility of the library staff who receive operational training as part of the package. There is, therefore, no requirement for personnel with computer backgrounds to be on the library staff.

Data presented in this report has been gathered from the questionnaires and from telephone conversations with librarians. Notes have been added in places where it was considered that additional information may clarify a point or eliminate the need for defining library terms.

2.0 GENERAL DATA

Information in this section is regarded as general information and is limited to vendors, price and payment method.

2.1 Vendors

Five vendors supplied the total of 38 systems used. The number of libraries using each vendor is shown below. Where a trade name exists for the system it has been included in brackets under the vendor's name.

A listing of individual libraries using each vendor's system is included in Appendix I to this report.

<u>VENDOR</u>	<u>NUMBER OF LIBRARIES</u>
Computer Library Systems, Inc. (CLSI) [LIBS-100]	30
Gaylord Brothers, Inc.	4
Universal Library System, Ltd. [ULISYS]	2
Checkpoint Systems, Inc.	1
Systems Control, Inc. (SCI) [SCICON]	1

2.2 Price

The questionnaire did not ask for the price paid by the libraries for their automated circulation systems. However, some libraries volunteered that information. As can be seen from the limited data, cost increases when one includes branch libraries. The data is shown in the following table:

<u>VENDOR</u>	<u>LIBRARY</u>	<u>NUMBER OF BRANCHES</u>	<u>APPROX. PRICE</u>
CLSI	Lewis & Clark	0	\$ 90,000
CLSI	Boise	0	\$124,000
CLSI	Tucson	5	\$300,000
CLSI	San Jose	11	\$489,820 (Bid not successful)
SCI	San Jose	11	\$467,629

2.3 Payment Method

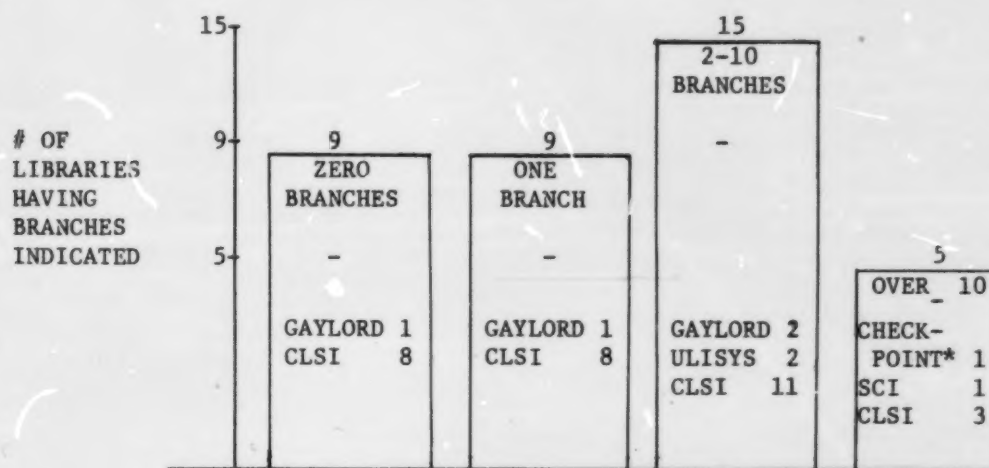
Outright purchase was the method chosen by 28 of the 38 libraries responding. The remainder were either leasing the systems or had a lease/purchase arrangement. At least two libraries had a 4 to 5-year loan arrangement with a local bank to pay for their system, the money coming from the library's annual operating budget.

All four libraries which used Gaylord were leasing their systems. The Gaylord method of payment for hardware, software and operating costs is by means of a monthly fee.

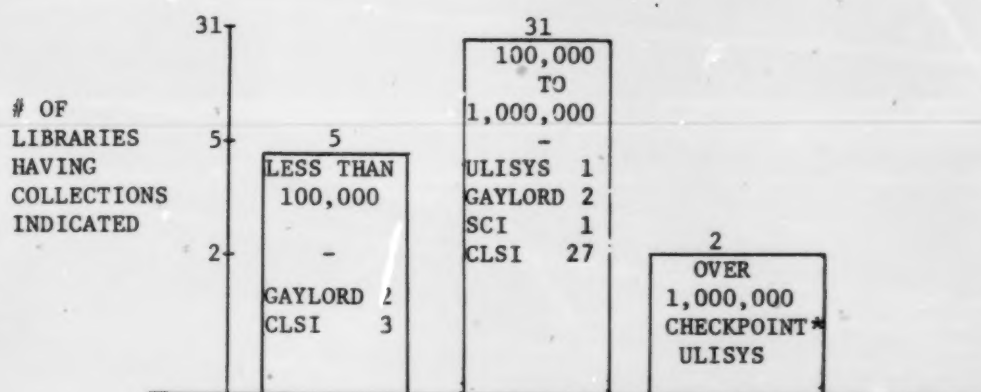
3.0 STATISTICS OF RESPONDING LIBRARIES

This section presents data derived from the questionnaires and has been grouped into appropriate categories. Statistics provided are for all 38 libraries responding except where otherwise noted.

3.1 Number of Branches Having Access to the System

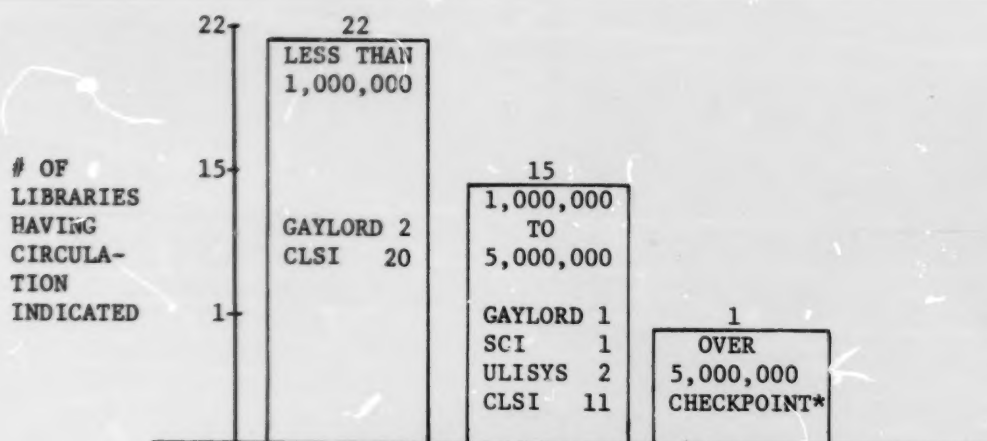


3.2 Collection Size



*NOTE: The Checkpoint System ties into a large Central Computer (IBM-370).

3.3 Annual Circulation



*NOTE: The Checkpoint System ties into a large Central Computer (IBM-370)

3.4 Staff Preparation

70% believed the staff was adequately prepared for the new system prior to installation.

30% believed the staff was inadequately prepared and blamed the vendor, the library, or both.

3.5 Operational Problems

47% had significant problems with their system (17 libraries).

Of those 17 which had problems,

- 45% had hardware problems (computer down-time mainly).
- 36% had software problems (miscellaneous).

- 13% said their problems were due to lack of knowledge of the system.

- 6% said their problems were due to poor vendor support.

65% said the new system did not create new problems.

35% said it did create new problems.

3.6 Benefits

70% responded that their system provided the benefits expected.

8% responded that their system did not provide the benefits expected.

22% saw only partial benefits.

3.7 Staff

Of 32 libraries replying,

60% reported a reduction of personnel required for the circulation function.

40% reported no reduction in personnel.

3.8 System Operational Costs¹

31% said costs were greater than before.

31% said costs were less than before.

39% said costs were about the same.

¹Many libraries who supplied information on this question mentioned that their reply was subjective. Others remarked that their system had not been operational long enough for them to make a determination on savings one way or the other. No library provided any cost data which was based on actual experience with their system.

3.9 Fines/Losses (17 libraries reported)

82% said there had been an increase in fines collected.

65% said there had been a reduction in loss of library materials.

3.10 Other Automated Systems

24% were considering a security system. (CHECKPOINT, 3M)

38% were considering an acquisitions system. (BATAB, BRODART)

24% were considering a cataloging system. (OCLC, BALLOTS)

14% were considering on-line film booking.

3.11 Hindsight

76% (29) said they would purchase the same system again.

3% (1) said they would purchase a different system.

21% (8) were not sure.

4.0 COMMENTS MADE BY MORE THAN ONE LIBRARY

During data reduction, it was discovered that more than one library offered the same comment about a system. These comments are given in this section. Also included are comments specifically made by CLSI users. These comments were more numerous mainly because most respondents used CLSI systems (30 out of 38 libraries responding).

4.1 Hardware & System Failures Due to Power Supply Fluctuations

Seven libraries reported hardware and system failures due to transients or variations in their power line voltage. Some of them have installed voltage regulators to eliminate this problem, but only after two years of frustration.

4.2 Savings

A number of respondents advised against promising financial savings to governing boards through automation. The consensus was that savings would come from not having to hire additional staff.

4.3 Zebra Labels (Bar-encoded labels)

Slow delivery of Zebra labels for item identification created difficulties for users of CLSI and Gaylord systems. A recommendation was that libraries overestimate the number of labels required, rather than end up short and be subjected to delays. Other libraries reported poor adhesion on some labels but these problems have been eliminated now according to the vendors.

4.4 Comments on CLSI System

- Seven libraries said they were completely satisfied with the performance of their CLSI system, with service provided by the company and with benefits to their library due to automating the circulation function.
- Two libraries reported they had many problems when their system was first installed; but now that it is operating error-free, they are satisfied.
- The size of the Title Record was judged too small for many applications. The present CLSI system limits the number of author characters to 25 and the number of title characters to 30. This creates a problem for discrete identification of some titles (corporate entries, title main entry supplements to another publication, etc.).²
- Certain data elements are included at the title level that would be better included at the item level (i.e., price, edition class-paperback, library binding, etc.).²
- Having a maximum of 16 terminals was considered a limitation by large system users.³

²CLSI reports that Release 2.01, the first release of Version 2, eliminates these problems.

³The company reports that it has two approaches to this limitation. One approach is to use a distributed computer system as reported in Library Journal, 1 February 1978, page 304. The other approach is to increase the size of the computer to a PDP 11/34.

- Slow response time from one system was reported when using light pens, CRT or console inputs.⁴
- Libraries in Illinois reported that the ability to dial-up another CLSI system in a neighboring county has speeded up their interlibrary loans.⁵
- There appears to be a need for a simple trouble-shooting section in the handbook so that libraries can try to fix simple malfunctions before calling the "Trouble Desk" in Boston.
- Program software is inflexible and cannot be altered by libraries for individual tailoring of systems.⁶
- Software bugs created a loss of credibility with both staff and public in one library, i.e., overdue notices were sent to the wrong people.⁷

⁴This problem is not universal, says CLSI, and occurs only in libraries with a high volume of activity. As a solution, the company now recommends that a large proportion of the collection be converted before the library goes on-line.

⁵In its LIBS-100 brochure, CLSI states, "There are also libraries that practice interlibrary loan (ILL) networking between two or more LIBS-100 systems. For example, a statewide network, the Illinois Library Network, ILLINET, is carrying out a project involving 16 autonomous libraries using 5 LIBS-100 system in on-line ILL networking. The preliminary results show that the optimum time for delivering inter-library loan requests within one system has been reduced from 5 days using their old manual system to 2 days using the LIBS-100."

⁶This is no longer a valid complaint says CLSI, who report they now offer training to programmers and permit full access to all their systems.

⁷A CLSI spokesman said that this probably happened on an earlier system. A company-instituted quality control program now eliminates software bugs before each new version leaves the plant.

5.0 ADDITIONAL GENERAL COMMENTS MADE BY LIBRARIANS

Librarians were encouraged to offer additional information at the end of the questionnaire. Their replies have been grouped into categories as follows.

5.1 Maintenance

- Frequency of repair of light pens is high (10 in an 8-month period in one library).
- Storage disks needed replacing (also reported by libraries not included in this questionnaire).
- Disk drive was replaced in two libraries due to an overheating problem.
- Main memory in the computer was replaced twice in the same library.
- Lack of air-conditioning caused the disk drives to malfunction in one library.

5.2 Operating Costs

- One library reported hardware and software maintenance costs were \$9,000 a year; another said \$7,200 a year.
- Another library reported that telephone data sets used for interconnecting terminals in its 22 branches to the computer cost \$20,000 a year. This is a continuing expense paid to the telephone company.

5.3 Conversion of Records

- One library judged that entering bibliographic data into the computer took an excessive amount of time. Approximately 25 people worked shifts at the 3 available terminals from 9 AM to 10 PM for about 1 year to input 161,000 monographs and 21,000 patrons.
- It was reported that it took about 2 minutes to convert an item which has already been catalogued and 3-4 minutes for a new item.
- Another library said that the vendor underestimated requirements and, therefore, the computer storage was used up too fast. Disk storage had to increase from 20 MBytes, typically, to 66 MBytes in order to get all their records into the computer.
- In one library, conversion was accomplished by 13 full-time employees hired for 1 year with grant funds provided under the Comprehensive Employees Training Act (CETA). Collection size was 750,000 and patrons numbered 125,000. (Note: A 3M security system was installed at the same time. The magnetic strip required for the security system was added to items along with the 3M label for circulation control. This avoided the duplication of effort which would have occurred if both systems had been installed at different times.)

- Conversion at another library required their own staff plus 5 additional people for 6 months. The additional people were paid for by a CETA grant. Their own staff worked nights and weekends to ensure full utilization of the terminals. About 50% of the 180,000 collection was converted during the 6-month period. This 50% represented the most active portion of the collection. The remainder is now being converted by staff members at a reduced rate of input.
- The optimum period of time for a staff member to enter data at a terminal was judged to be 2 hours. Periods longer than 2 hours resulted in fatigue and an increase of errors being added to the data base.

5.4 Staff Allocation

- One library said they underestimated the amount of time involved in running daily maintenance programs, statistics, etc. A new position (Computer Console Operator) had to be developed as a result of purchasing the system.
- Another library had been on-line since July 21, 1975. They dropped two clerical positions from the Circulation Department in January 1977. But, they reported that they needed to add staff to Technical Processes for conversion purposes.
- Yet another library reduced the staff in the circulation unit by 1, but increased the staff of the cataloging unit by 1.

5.5 Lost Items

- It was reported that there had been an increase in the return of lost items since the computer was installed. Patrons who were delinquent at one branch discovered that they could no longer withdraw items from another branch without being trapped by the computer. Once patrons realized they could not "beat the system," lost items were returned or outstanding bills for the item were paid.
- Many libraries said that lost items diminished because overdue notices were sent out much sooner. The manual system used to take up to 8 weeks, whereas the computer could provide overdue lists after 1 day, if desired.

5.6 Changes to Building Interior

The installation of a minicomputer and disk drives into the library required physical changes to the interior of many buildings. One library advised that electrical and construction work be planned well in advance of the arrival of the system to avoid delays. The extent of changes necessary varied from library to library and upon how much spare space was available for the installation.

A listing of the experiences of other libraries is given below:

- For trouble-free operation, one library had to locate the computer in an air-conditioned room which also had good ventilation.

- A number of libraries had to install a dedicated power line from the main electrical panel to the computer.
- Another library said that the computer could not be located near the circulation desk where it was most convenient because the area had a carpeted floor. (Carpets cause static problems for computers.) As a result, the computer console now occupies an entire room across the hall from the Technical Processes. This turned out to be fortuitous because the equipment was noisier than anticipated.
- One library had to install sound insulation in the walls of the computer room to reduce the interference on the people working next door. Another library installed carpets on the walls for the same reason.

5.7 Miscellaneous Observations by Librarians

- The computer had to be started one hour before the day's transactions began. This created a problem because our union people would not come in early without overtime pay.
- It was advised that a library contemplating automation should involve the staff from the beginning.
- The staff should be informed of their new assignments before automation is incorporated to avoid speculation about people being laid-off.
- The shelf-list should be cleaned up before it is converted to a machine-readable form.

- Patron acceptance of automation was generally good, provided there were not a significant number of failures which caused delays at the circulation desk.
- The staff was very positive in their support of the computer. Said one librarian, "They have realized better than anyone how the computer has improved their ability to serve the public. But, when the computer is down, staff morale drops accordingly."
- There has been an overwhelming demand on the part of the professional staff for management reports leading to a fuller understanding of collection usage. This was because manual systems were designed to record transactions rather than produce statistics. The new computerized systems provide information in minutes which would have taken months to get from the manual systems.
- One library said that if they were selecting an automated circulation system again, they would consider several systems, including CLSI, as outlined in the May 1977 Library Technology Reports, "Computer-Based Circulation Systems - A Current Review and Evaluation" by William H. Scholz, pp. 231-325. In addition, they would hire an outside consultant with extensive knowledge of, and actual field experience with, automated circulation systems.

6.0 DATA APPLICABLE TO MICROCOMPUTER SYSTEMS

MITRE's grant effort for the Office of Education deals with, first, assessing the role of the microcomputer⁸ in library automation, and then, developing conceptual systems using the microcomputer.

Data from the automated circulation system questionnaires and information supplied by librarians is applicable to microcomputer systems. Some of the information has been directly applicable and other information has given us an insight into problem areas that would require correcting in any new systems which are developed.

The following subsections deal with MITRE's assessment of this information.

6.1 Automated Circulation System Price

A number of libraries supplied the price paid for their systems; and that information, when added to data already collected, confirmed that existing turnkey automated circulation systems are expensive, especially when they have to service a number of branches.

MITRE's opinion is that many libraries could afford automated circulation if the price was in the \$30,000 range rather than in the \$100,000 range.

It is MITRE's belief that the microcomputer will aid library circulation in two ways. One, the microcomputer may well reduce the cost of existing systems once a concept called "distributed

⁸For an easy-to-read article on microcomputers, see TIME, February 20, 1978, "The Computer Society."

processing" is implemented. Secondly, the microcomputer will allow new systems to be developed which will be in the \$30,000 range or lower. Already, a company called Decicom has a microcomputer-based system in operation in 5 libraries and Cincinnati Electronics has one in the development stage. As the technology develops, automated circulation is sure to be financially within the reach of all libraries.

6.2 Payment Method

One library mentioned that they were purchasing an automated circulation system on a 4-year plan with a local bank. This should be of interest to many librarians who have been unable to get an appropriation for a system because the budget could not stand such a large expenditure in one year. It is also of interest to us for it implies that a library can afford \$30,000 in one year, but not \$120,000. This confirms our belief that new systems which are developed should be in the \$30,000 range so that libraries could pay for them outright if so desired. This could be from an existing budget or by a special appropriation.

6.3 Fines

It was interesting to discover that many of the libraries responding to the questionnaire did not collect fines. Among those libraries who did, some mentioned that the average value of the fines collected were smaller but there were now more of them. This is possibly attributable to the fact that overdue lists are available much sooner than they used to be when a manual system was used.

The cost of postage can be a major expense in mailing-out overdue notices. Perhaps this is one reason why some libraries do not collect fines. One of the difficulties with an efficient overdue notice system occurs when the patron returns an item before the reminder arrives. When this happens, patrons tend to get upset. Thus, it may be worth considering variations in the software to allow flexibility in mailing of overdue notices. For example, perhaps patrons could be assigned to different categories depending on their past record.⁹

6.4 Other Automated Systems

The microcomputer is certain to have applications in the library other than circulation control. Acquisitions, cataloging, serial check in, payroll, film booking, are all candidates for systems using microcomputers. Some systems may require another computer (host) in addition to the microcomputer; but if the host is already owned by the governing body, so much the better.

Many of the libraries polled said they were interested in automating other departments in their library. The department chosen by the majority (38%) was acquisitions. This information tells us that a need exists for an automated acquisition system in the library. Existing vendor-supplied systems will be analyzed to see if a micro-computer-based system can be conceptualized which will fulfill the acquisitions function in the library.

⁹This feature has already been designed into some vendor's software.

Cataloging, security, and film-booking were systems most requested by the remainder of the libraries polled. The microcomputer is unlikely to be used in security systems and full MARC cataloging may well be most efficiently accomplished using OCLC, BALLOTS or MARC tapes. Film-booking appears more promising, so an analysis will be made of this requirement later in this grant program to see if it is feasible to use a microcomputer for this task.

6.5 Light Pen Reliability

Reports from librarians give the impression that an average of one light pen failure occurs every month in each library. Some failures are said to be because operators tend to use the light pens like magic markers and hence damage the tips. Others say there is no holder for the pens and so they dangle freely and sometimes fall on the floor. A survey (February 1977) of 35 CLSI, LIBS-100 users by the City of Austin, Texas, gave only an average rating to light pens. The majority of other items were given good or excellent ratings. Users of OCR WANDSTM appear to be having the same or slightly lower failure rates than light pen users.

This information is useful in designing a new system. The cause of the failure rates will be analyzed during later discussions with the manufacturers to see if the cause can be determined. The object would be to increase the reliability of the light pens so that the leading cause of failures would be the light pen bulbs.

6.6 Failure Due to Power Line Variations

Many users reported both hardware and software failures due to minor fluctuations in line voltage. A major advantage of a microcomputer system is that it draws much less power than other computer systems. Surge protection can, therefore, be provided at a cost of around \$10 compared to \$400 for the minicomputer systems.

Information about this problem makes it mandatory to provide good regulation of microcomputer systems at the design stage so that this problem will be completely eliminated before the system is used in a library.

6.7 Maintenance

Maintenance costs for minicomputer-based automated circulation control systems are currently about \$10,000 a year and rising. This cost is a reflection of the complexity of the system. Microcomputers (micros) are less complex to maintain than minicomputers (minis), mainly because there are fewer component parts in a micro. Therefore, maintenance costs should be lower.

Keeping the cost of micro system maintenance low will be a goal in systems to be conceptualized by MITRE. General specifications will be written to include reliability requirements for components to ensure that quality is designed into the system at the outset.

6.8 Packaging

Reports on the need to create special soundproof areas in the library to house the computer and disk drives confirm that the equipment was not designed for use in a library environment.

Packaging of future systems will have to bear this in mind. General system specifications developed by MITRE will include reference to items such as equipment noise and the ability to operate trouble-free without air-conditioning. By considering factors such as these at the design level, librarians will not have to compensate for deficiencies after the system is installed.

APPENDIX I

RESPONDING LIBRARIES GROUPED BY VENDORS

APPENDIX I

RESPONDING LIBRARIES GROUPED BY VENDORS

<u>COMPUTER LIBRARY SYSTEMS, INC. (CLSI)</u>	<u>STATE</u>
Albany Public Library	New York
Arlington Heights Memorial Library	Illinois
Baldwin Public Library	New York
Baltimore County Public Library	Maryland
Bloomfield Hills Township Public Library	Michigan
Boise Public Library	Idaho
Clark County Library	Nevada
Eureka-Humboldt Library	California
Fairbanks North Star Borough Library	Alaska
The Ferguson Library	Connecticut
Gail Borden Public Library	Illinois
Glenview Public Library	Illinois
Greenwich Public Library	Connecticut
Illinois State Library	Illinois
Kansas City Public Library	Missouri
Lewis and Clark Library	Montana
Library Association of Portland	Oregon
Martin Luther King Memorial Library	Washington, DC
Marin County Public Library System	California
Mount Prospect Public Library	Illinois
NAPA City-County Public Library System	California
North Suburban Library System	Illinois
Providence Public Library	Rhode Island
Richmond Public Library	California
Rockford Public Library	Illinois
Rolling Prairie Libraries	Illinois
Salt Lake County Library	Utah
Somerville Public Library	Massachusetts
Suburban Library System	Illinois
Tucson Public Library	Arizona
 <u>GAYLORD</u>	
Fountaindale Public Library District	Illinois
Manhattan Public Library	Kansas
Onondaga County Public Library	New York
University City Public Library	Missouri

UNIVERSAL LIBRARY SYSTEMS (ULISYS)

Cariboo-Thompson Nicola Library System
Phoenix Public Library

British Columbia
Arizona

CHECKPOINT

Milwaukee County Federated Library System

Wisconsin

SYSTEMS CONTROL INC. (SCICON)

San Jose Public Library

California

APPENDIX II

LIST OF VENDORS OF AUTOMATED CIRCULATION SYSTEMS

APPENDIX II

LIST OF VENDORS OF AUTOMATED CIRCULATION SYSTEMS

Information on Vendors Supplying Libraries Polled

<u>VENDOR</u>	<u>ADDRESS</u>	<u>TELEPHONE NUMBER</u>
Checkpoint Systems, Inc.	110 E. Gloucester Pike Barrington, N.J. 08007	609-546-0100
CL Systems, Inc. (CLSI)	81 Norwood Avenue Newtonville, Mass. 02160	617-965-6310
Gaylord Bros., Inc.	Box 61 Syracuse, N.Y. 13201	315-457-5070
Systems Control, Inc.	1801 Page Mill Road Palo Alto, Calif. 94304	415-494-1165
Universal Library Systems, Ltd.	202-60 Saint Clair Ave., E. Toronto, Ontario M4T1N5	416-961-1011

Some Other Vendors of Automated Circulation Systems

Cincinnati Electronics	2630 Glendale-Milford Rd. Cincinnati, Ohio 45241	513-563-6000
Data Phase Systems, Inc.	Plaza West Center 4528 Belleview Kansas City, Mo. 64111	816-931-7927
Decicom Systems, Inc.	250 Adams Blvd. Farmingdale, N.Y. 11735	516-293-9270
3M Inventory Control System (ICS)	3M Company Library Systems 3M Center, Bldg. 220-9E St. Paul, Minn. 55101	612-733-2851

APPENDIX III

FAIRFAX COUNTY PUBLIC LIBRARY

QUESTIONNAIRE SHOWING TOTALS OF 38 RETURNS

NOTE: The totals reported for each question do not always add up to 38. Some libraries did not reply to every question asked and others checked more than one answer to the same question.

APPENDIX III

FAIRFAX COUNTY PUBLIC LIBRARY QUESTIONNAIRE
SHOWING TOTALS OF 38 RETURNS

Fairfax County Public Library
Automated Circulation System Questionnaire

Name of your library: _____
Address: _____
Principal contact individual and telephone number: _____
Name of automation system you have: _____

1. In your library system, is an automated circulation system

- a. 0 being considered
- b. 1 under development
- c. 5 being installed
- d. 32 operation
- e. 0 other (explain) _____

2. Was it

- a. 38 developed by a commercial vendor
- b. 0 developed in-house
- c. 0 developed at another institution
- d. 3 developed partially in-house
- e. 0 other (explain) _____

System Hardware

3. Computer that runs the circulation system is

- a. 30 vendor supplied, dedicated to your library
- b. 8 vendor supplied, shared with other libraries
- c. 0 a central processing facility shared with other agencies
- d. 0 acquired by you from an agency other than the system vendor
- e. 0 other (explain) _____

4. Terminals are

- a. 13 general purpose, industry compatible
- b. 25 special purpose, available only from the vendor
- c. 0 custom made for your library
- d. 0 other (explain) _____

Fairfax County Public Library
Automated Circulation System Questionnaire

5. Data is entered via

- a. 38 bar coded label scanner
- b. 0 badge/card reader
- c. 28 keyboard
- d. 0 other (specify) _____

System Software

6. Was supplied by

- a. 38 vendor
- b. 0 another institution
- c. 1 a central programming staff
- d. 0 other

7. Can

- a. 8 be modified by the library
- b. 32 be modified only by vendor
- c. 1 not be modified

8. The method of acquisition of the system is

	<u>Hardware</u>	<u>Software</u>	<u>Other</u>
a. Lease	<u>5</u>	<u>5</u>	<u>0</u>
b. Lease/purchase	<u>5</u>	<u>5</u>	<u>0</u>
c. Outright purchase	<u>28</u>	<u>28</u>	<u>3</u>
d. Other	<u>0</u>	<u>0</u>	<u>0</u>

Telephones

9. Phone lines for your system are

- a. 4 leased
- b. 6 dial-up
- c. 11 not used

10. Telephone costs are

- a. 4 a major cost
- b. 26 insignificant
- c. 3 in between

Fairfax County Public Library
Automated Circulation System Questionnaire

General

11. How many branches, or otherwise separate locations having access to the system, do you have:
- a. 9 zero
 - b. 9 one
 - c. 15 2-10
 - d. 5 over 10
12. Annual circulation in your library is
- a. 22 less than 1,000,000
 - b. 15 1,000,000 to 5,000,000
 - c. 1 over 5,000,000
13. Your collection is
- a. 5 less than 100,000 volumes
 - b. 32 100,000 to 1,000,000 volumes
 - c. 1 over 1,000,000 volumes
14. Do you feel the staff was adequately prepared for the new system prior to installation?
- a. 26 yes
 - b. 3 no
 - c. 9 partially
15. If not, was it due to
- a. 2 inadequate training by vendor
 - b. 3 inadequate preparation by library
 - c. 6 both
16. Have you had any significant problems with the system?
- a. 17 yes. Please expand here or in space 31.
 - b. 19 no

Fairfax County Public Library
Automated Circulation System Questionnaire

17. If so, were these due to
- a. 8 hardware
 - b. 6 software
 - c. 2 lack of knowledge of the system
 - d. 1 poor vendor support
 - e. 6 a combination of the above. Please expand here or in space 31.
18. Acquisition of the new system was prompted by
- a. 10 problems with the old system
 - b. 29 a desire for new capabilities
 - c. 15 cost considerations
 - d. 0 other reasons (explain) _____
 - e. 7 a combination of reasons
19. Has the new system provided the benefits expected?
- a. 25 yes
 - b. 3 no. Please expand here or in space 31.
 - c. 8 partially
20. Has the new system created any new problems?
- a. 22 no
 - b. 12 yes. Please expand here or in space 31.
21. Have you been able to reduce the number of people needed for the circulation function?
- a. 19 yes
 - b. 13 no
22. Total cost of circulation including the system, personnel, supplies, etc., is now
- a. 9 greater than before
 - b. 9 less than before
 - c. 11 about the same

Fairfax County Public Library
Automated Circulation System Questionnaire

23. Since your system has been in operation, there has been
- a. 14 an increase in fines collected
 - b. 3 no increase
24. Since your system has been in operation, there has been
- a. 11 a decrease in loss of library materials
 - b. 6 no decrease
25. In addition to the circulation system, other systems were
- a. 12 installed
 - b. 20 considered for the future
 - c. 7 not considered
26. These other systems are
- a. 17 directly interfaceable with the circulation system
 - b. 15 discrete and independent of circulation
27. The circulation system is such that
- a. 19 it can be easily interfaced with other systems
 - b. 12 it can be interfaced with some difficulty
 - c. 2 it cannot be interfaced
28. Other systems installed or under consideration are
- a. 15 security system
 - b. 24 acquisition system
 - c. 15 cataloging system
 - d. 9 other (specify) _____
29. If you had it to do over, would you
- a. 28 choose the same system
 - b. 1 look for a different system
 - c. 0 not consider an automated system
 - d. 9 no answer

Fairfax County Public Library
Automated Circulation System Questionnaire

30. What elements, factors, etc., do you think were vital in convincing your review levels to authorize the investment in automation?
- a. 5 dollar savings in personnel or materials
 - b. 16 improved service
 - c. 13 other
31. Additional comments, advice, etc., you may care to offer. Add pages if you desire. We are grateful for all the advice and guidance you can give. Many thanks.

APPENDIX IV

ACQUISITION DETAILS FOR REPORT ENTITLED
"SURVEY OF LIBRARY AUTOMATION
IN THE METROPOLITAN WASHINGTON AREA"

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ACQUISITION DETAILS FOR REPORT ENTITLED "SURVEY OF LIBRARY AUTOMATION IN THE METROPOLITAN WASHINGTON AREA"

INTRODUCTION

In July 1976, the Librarians' Committee of the Metropolitan Washington Council of Governments surveyed over 600 libraries in the Washington Metropolitan Area (Washington, D.C.; Maryland; Northern Virginia). Replies were obtained from 193 libraries and were documented in a report. The responses were presented exactly as they were received from the participating libraries, with no attempt made to interpret or analyze the data.

REPORT TITLE

"Survey of Library Automation in the Metropolitan Washington Area"

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ABSTRACT

This report presents data relating to the use of automation in libraries in the Metropolitan Washington Area. Data was collected by means of a questionnaire distributed to Washington area libraries in July, 1976. The report is divided into six parts including an index, display of individual responses, compilation of total responses, breakdowns by size and type of library and a sample survey questionnaire.